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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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09/832,168

04/10/2001

Won Bang

004515

8789

32588 7590 04/14/2003

APPLIED MATERIALS, INC.

2881 SCOTT BLVD. M/S 2061

SANTA CLARA, CA 95050

EXAMINER

ZERVIGON, RUDY

ART UNIT

PAPER NUMBER

1763

DATE MAILED: 04/14/2003

9

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/832,168

Applicant(s)

BANG ET AL.

Examiner

Rudy Zervigon

Art Unit

1763

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 06 February 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) 12-16 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-11 and 17-21 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

### Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

### Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 7.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

**DETAILED ACTION**

***Election/Restrictions***

1. Restriction to one of the following inventions is required under 35 U.S.C. 121:
  - I. Claims 1-11, and 17-21, drawn to an apparatus, classified in class 118, subclass 715.
  - II. Claims 12-16, drawn to a method of forming a film, classified in class 427, subclass 248.1.

The inventions are distinct, each from the other because of the following reasons:

2. Inventions I and II are related as process and apparatus for its practice. The inventions are distinct if it can be shown that either: (1) the process as claimed can be practiced by another materially different apparatus or by hand, or (2) the apparatus as claimed can be used to practice another and materially different process. (MPEP § 806.05(e)). In this case the apparatus as claimed can be used to practice another and materially different process such as etching.
3. Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, restriction for examination purposes as indicated is proper.
4. During a telephone conversation with Keith Tackett and an Examiner other than Rudy Zervigon on August 20, 2002 a provisional election was made with traverse to prosecute the invention of Group I, claims 1-11, and 17-21. Affirmation of this election must be made by applicant in replying to this Office action. Claims 12-16 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

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5. Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

6. The restriction is made non-final.

***Claim Rejections - 35 USC § 103***

7. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

8. Claims 1-11, and 17-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gauthier (USPat. 6,007,330) in view of King (USPat. 4,263,091). Gauthier teaches an apparatus (Figure 1) for delivering processing gas (Table 1) from a vaporizer (122) to a processing system (130) comprising:

- i. A valve (174) connected between the vaporizer (122) and the processing system
- ii. The valve (174) has a valve input (122/174 conduit) connected to a vaporizer output and a first valve output (174/130 conduit) connected to a processing system input and a second valve output (176) connected to a bypass line (vaporizer return)
- iii. A second valve (104) connected between a first gas source (106) and a second gas source (140, 150, 166), and a valve output (104/102 conduit) connected to a vaporizer
- iv. A chamber (130) having a gas input (180a,b)

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- v. At least one intermediate valve (160, 152, 142) connected between a gas source (140, 150, 166) and at least one three-way valve (174)
- vi. Plural gas supplies (140, 150, 166)

Gauthier does not teach:

- i. Second valve means as amended
- ii. Gauthier does not teach a controller for switching the valve between the first valve output and the second valve output.

King teaches three-way electrically controlled valve means (31-34; Figure 1) via a controller (59) that controls each conduit flow for each valve (column 3, lines 48-64).

It would have been obvious to one of ordinary skill in the art at the time the invention was made for to replace the three-way valves of Gauthier with King's controlled three way valves including King's valve controller.

Motivation to replace the three-way valves of Gauthier with King's controlled three way valves including King's valve controller is to optimize and control Gauthier's processing. Further, it is well established that the optimization of a process is obvious, therefore it would be obvious to those of ordinary skill in the art to optimize the operation of the claimed invention (*In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980); *In re Hoeschele*, 406 F.2d 1403, 160 USPQ 809 (CCPA 1969); *Merck & Co. Inc. v. Biocraft Laboratories Inc.*, 874 F.2d 804, 10 USPQ2d 1843 (Fed. Cir.), cert. denied, 493 U.S. 975 (1989); *In re Kulling*, 897 F.2d 1147, 14 USPQ2d 1056 (Fed. Cir. 1990), MPEP 2144.05).

***Response to Arguments***

9. Applicant's arguments filed February 6, 2003 have been fully considered but they are not persuasive.

10. Applicant states that Gauthier's item 176 is "an input for valve 174 rather than an outlet connected to a bypass line.". The Examiner disagrees. In response to applicant's argument that "item 176 is an input for valve 174 rather than an outlet connected to a bypass line.", a recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim. In a claim drawn to a process of making, the intended use must result in a manipulative difference as compared to the prior art. See *In re Casey*, 152 USPQ 235 (CCPA 1967) and *In re Otto*, 136 USPQ 458, 459 (CCPA 1963). In particular, the recycle line between 176 and 122 is established when valves 160, 152, and 142 are closed.

11. With respect to Applicant's position that Gauthier does not "describe or suggest":

"

a valve connected between a vaporizer and a processing system, the valve input connected to a vaporizer output and a first valve output connected to a processing system input and a second valve output connected to a bypass line, as described in claims 1 and 5.

"

The Examiner has demonstrated that Gauthier teaches:

vii. A valve (174) connected between the vaporizer (122) and the processing system (130)

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viii. The valve (174) has a valve input (122/174 conduit) connected to a vaporizer output and a first valve output (174/130 conduit) connected to a processing system input and a second valve output (176) connected to a bypass line (vaporizer return)

12. With respect to Applicant's position that Gauthier does not describe a valve means for selectively delivering gas to a processing system input and to a bypass line. The Examiner agrees and cites King for:

"

King teaches three-way electrically controlled valve means (31-34; Figure 1) via a controller (59) that controls each conduit flow for each valve (column 3, lines 48-64).

"

13. With respect to Applicant's position that King does not teach numerous claimed components which Gauthier is specifically applied for teaching, Applicant is referred to the body of the rejections provided above. Further, in response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, the examiner recognizes that there is teaching, suggestion, and motivation to combine the applied references and is found in the references themselves and in the knowledge generally available to one of ordinary skill in the art. In particular:

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“

Motivation to replace the three-way valves of Gauthier with King's controlled three way valves including King's valve controller is to optimize and control Gauthier's processing. Further, it is well established that the optimization of a process is obvious, therefore it would be obvious to those of ordinary skill in the art to optimize the operation of the claimed invention (In re Boesch, 617 F.2d 272, 205 USPQ 215 (CCPA 1980); In re Hoeschele , 406 F.2d 1403, 160 USPQ 809 (CCPA 1969); Merck & Co. Inc . v. Biocraft Laboratories Inc. , 874 F.2d 804, 10 USPQ2d 1843 (Fed. Cir.), cert. denied , 493 U.S. 975 (1989); In re Kulling , 897 F.2d 1147, 14 USPQ2d 1056 (Fed. Cir. 1990), MPEP 2144.05).

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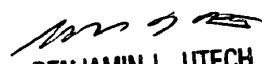
### ***Conclusion***

14. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

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15. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Examiner Rudy Zervigon whose telephone number is (703) 305-1351. The examiner can normally be reached on a Monday through Thursday schedule from 8am through 7pm. The official after final fax phone number for the 1763 art unit is (703) 872-9311. The official before final fax phone number for the 1763 art unit is (703) 872-9310. Any Inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Chemical and Materials Engineering art unit receptionist at (703) 308-0661. If the examiner can not be reached please contact the examiner's supervisor, Gregory L. Mills, at (703) 308-1633.

  
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